

**Palynostratigraphic characterization of the Cretaceous strata from the Alter do Chão Formation, Amazonas Basin.**

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The sparsely fossiliferous fluvio-lacustrine strata of the Alter do Chão Formation, represent the beginning of the final sedimentary episode in the Palaeozoic Amazonas basin.

Detailed subsurface analyses have been conducted on the Alter do Chão Formation, utilizing 43 core samples from the 1-NO-1-AM and 9-FZ-28-AM wells. Integration of seismic data, electric and sedimentological well logs, and results of palynostratigraphic analysis facilitates recognition of two distinct depositional sequences constituting the Alter do Chão Formation in the central area of the Amazonas Basin. The lower strata, termed Sequence 1, were deposited in late Alagoas (=late Aptian-Albian) time mainly from terrigenous influxes fed by braided fluvial systems. The upper sequence (Sequence 2) is of Cenomanian age; it mainly represents cyclic, progradational, fluvial-deltaic-lacustrine sedimentation. The continuously cored sampling and palynologically favourable material has greatly enhanced the characterization of the Cretaceous palynostratigraphic succession in the Amazonas Basin. The identified palynozones correspond directly with the lithostratigraphic sequences. In Sequence 1, the P-270/P-280 palynozones are clearly recognizable. The P-380 palynozone, occurring in Sequence 2. These palynozones provide affirmation that deposition of the Alter do Chão Formation commenced in the late Aptian and concluded late in the Cenomanian, diminishing considerably the temporal magnitude hitherto inferred for the unconformity between the Palaeozoic and Mesozoic deposits of the Amazonas Basin.

Throughout the analyzed section, the consistently low frequency of palynomorphs produced by plants better adapted to dry climates suggests that the Alter do Chão Formation was deposited under milder climatic conditions than coeval formations of the marginal basins.